

What is Hackle?

...by Liz Conranch

What is Hackle and How to Care For It

An article by Liz Conranch, Conranch Hackles , Elk Washington USA

Elizabeth Conrad is co-owner of Conranch Hackle. Her article, titled, "What is Hackle?" also appears on the Fly Anglers On Line web site and has helped many to understand the most important ingredient in fly tying. It covers everything from the history of fly tying to the names, uses and care of the various feathers. The article is actually a talk, given by Liz, to a group in Davenport, Iowa on February 15, 2002.

We believe that Conranch Hackle may well be the best hackle produced anywhere in the world and would hope that you take the time to visit them at www.conranch.com very soon! Thank you, Liz and Denny!

It is nice to be back in Iowa. I am the co-owner of Conranch located in Elk Washington. My partner is my best friend and father Dennis Conrad. My Dad and I have been producing premium genetic dry fly hackle since 1997. Ours is an old flock that has consistently produced top quality hackle. Many well-recognized breeders have contributed to the bloodlines of our flock. We keep records on each bird produced, having 16 separate genetic families and several sub families, therefore we are able to produce better quality feathers each year. It can be a lot of work, but something we both truly enjoy.

The origins of fly tying date to the 1st and 2nd century BC in Macedonia, where brown trout anglers attached feathers to their hooks to imitate the insect life in the streams. Through the years fishing with an artificial fly has evolved from a practical way to catch fish to a highly refined sport, but the method of winding materials onto a hook remains the same.

The endless array of feathers, fur and man-made materials can be intimidating to the fly tier. You can find feathers on many birds like the barnyard chicken, duck, quail, pheasant, show birds and many more. My intent here this evening is to help you understand the hackle feather.

So what is hackle? The word hackle, as we have come to know it refers to the neck feathers of a bird. Because the feather or hackles stands straight out from the stem when wrapped, we can see the connection to the hairs standing erect on a dog's back. Birds, especially the fighting cock, hackle their feathers to display a readiness to fight.

Let's begin by understanding the typical parts of a feather.

The center is referred to as a quill, shaft, stem or rachis, all these terms meaning one in the same. For simplicity, let's refer to it as the stem. The stem serves different purposes to the bird. In flight its strength or weakness is necessitated by its physical placement on the bird, such as primaries on the wing, which are attached to the bone. The bird can control certain muscles in its wing to help in flight, such as gliding, turning and maintaining altitude.

A feature of the stem that is important to the fly tier is its shape. The ideal shape for a stem would be oval. (Which is what we have developed in our flock) This shape is least likely to twist when wrapping on a hook or when tied as a parachute. Other stems may be round, square or even flat. They will wrap and twist differently when tying to a hook. The stems on a saddle are finer than the stems of a cape. This allows the tier to utilize the length of the saddle feathers to the max. You will be able to wrap more wraps around a hook with less thickness from the stem.

Branching off the stems are the barbs. These come in several different shapes and colors. Along the edge of the barb are numerous barbicels, we refer to them as Velcro hooks. You have seen birds knitting their split feathers together by working its beak into the feather to repair it.

All feathers have these barbicels, except genetically grown hackle birds. They lack the Velcro hooks, without the barbicels, which also hold water; the feather will float hence the term dry fly quality. Therefore, the lack of Velcro hooks allows a feather when wrapped to a hook, to stand straight out from the stem.

The only feathers on a dry fly bird that does not have the Velcro hooks are found mostly in the neck and saddle feathers. By knowing this we can assume and rightly so that there are far more "wet" quality feathers on a bird than dry fly quality feathers.

To review: the three basic parts of a feather, on most birds are the stem, the barbs and barbicles. The exception is in the genetically grown bird.

As I mentioned before, the dry fly quality feathers are found in the neck and saddle areas of a bird. The capes and saddles are graded in several ways. I have found that most people we talk to, really do not understand what the difference in grades mean to them. At Conranch Hackle we grade the old fashion way.

To determine the grade, we consider the hackle count, or number of feathers on a cape or saddle that have the dry fly quality. One can turn the skin over and look at the little bumps where the feathers are embedded in the skin. They form groups or tracks. The closer the bumps the higher the number of feathers in that area of the skin. Keep in mind that different areas on a bird will have tighter grouped feathers than other areas. The highest number of dry fly quality hackle would be found on a Grade #1, a few less on a grade #2 and a bit fewer on a Grade #3. Length is also considered, especially on the saddles. A longer grouping of hackle, usually 12 inches or longer, would be found on a #1 and going shorter on a #2 and #3 grades.

Another important feature is the hackles barb density, how many barbs per inch along the stem. As a general rule, 40 per inch are very poor, 60 per inch are good, 80 per inch are excellent and 100 per inch are premium. The barbs should be very stiff. You can test for stiffness by bending the skin and blowing across the feathers to see how rapidly they vibrate and return to a standstill. Another good way to test is to take a single feather and bend it in half so the barbs stand out, then touch them to your lip. Your lip is very sensitive and you can feel how prickly the barbs feel. A stiffer barb is preferred so it will hackle off the stem when wrapped and allow the fly to set on top of the film and appear to be floating.

To review, the difference in grade reflects how many dry fly hackles there are, how long they are and how stiff the barbs are. The good dry fly quality should be pretty much the same in all grades. Before good quality dries were being produced, one could find a lot of web in grade #3. Good quality grade #3 dries should not have web any more than #1.

On a single hackle, the width of the barbs is pretty much the same size along the length of the hackle. The width of each feather differs from cape to saddle. The tip may appear to be very tapered, but should be only slightly. The different widths are what we are looking for when tying a particular size hook, On our capes, we find that a grade #1 will provide hackles that tie down to size 32 (not all but most) and almost all the others will tie lots of 24's. Saddles normally come only in two or three sizes per saddle, ex: 8,10,12 or 10,12,14. Sometimes you will find 14 and 16. Keep in mind this is what we breed for and other breeders may do differently. These are the sizes the old pattern books call for so we stick to them.

Perhaps many of you are not aware that all the feathers on an adult bird can be used for tying flies. The large feathers going from the humerus across the shoulder, under the cape are called spade hackle. These feathers are most often used for tails. Then you have the saddle hackle below the spade feathers. Under the saddle about $\frac{3}{4}$ to 1 inch wide, is an area of long wide webby feathers known as schlappen, these feathers are great wet fly materials used on streamers etc. (mention most saddles have had this group of feathers trimmed off. Below the schlappen is of course the tail and these feathers can be used in many applications of tying. The wing feathers are commonly used for wings on wet or dry flies. The soft downy feathers located on the belly area, know by many names but known as marabou by most tiers and make great wet flies. The breast feathers are located under the collarbone and down to the breastbone. Keep in mind that all of these feathers, except the cape and saddle, do not have dry fly quality. These feathers have the Velcro hooks, which hold water, allowing the fly to sink into the water.

There are some feathers that just are not available on an adult bird. Many of the old pattern books call for a small hen and small rooster feathers. The smaller size feather and the rounded tips of the hen feathers make them ideal for wings and tailings on either wets or dries. These feathers have not been available to the tier. To assist you the tier, Conranch Hackle the first in the industry to provide you with these feathers from our genetic stock. We have developed a juvenile hen in all of the standard colors of hens.

An area I feel is important is how to care for your hackle and keep bugs out? There are many different methods and some are different from what we do. First you should never assume that a newly acquired skin is free of bugs. Better to treat all new skins before they may contaminate your other supplies. Being critter free does not guarantee that they will stay that way. We believe that a preventative program is the best solution. We strongly recommend that all fly tying material are put in a zip lock bags and placed in a zero degree freezer for at least one week, then remove, allow out for one more week then re-freeze for another week. Do this twice a year. After this freezing treatment you can use the zip lock bags to store them in and add a mothball to each bag or a piece of dog or cat flea collar. Be sure to not leave feathers in extremely warm areas or in direct sunlight. The feathers can dry out and become brittle, being of little or no use to you.

What do you do if you spill something on a skin? Is it ruined? Do not despair, just wash the skin! When they are first processed they are washed and dried. Here is how we do it. Fill both kitchen sinks about half full of hot water, as hot as your hands can handle, adding a bit of dish soap (I prefer Dawn because it aids in the removal of greasy fat) to one and about $\frac{3}{4}$ cup of white vinegar to the other. Immerse the skins into the soapy water, allowing to soak all feathers completely. Then gently wash by hand or use an old toothbrush, to remove any foreign materials. Once cleaned, gently squeeze the excess water out and place into the vinegar rinse. Allow the skin to soak for about 10 minutes or so. Then did it several times to rinse away the soap. Again gently squeeze out excess water. The best way to dry the skin is to pin it to a piece of cardboard. We have found the cardboard to provide a good drying back, as it will absorb the water and any excess oils from the skin. Position the skin, do not stretch to it's normal size and shape, placing as few a number of pins as needed to hold it in place. You may then brush and or comb the feathers into their natural position. Hang the cardboard up in a heated room: it takes 2 to 3 days to dry. If you are doing a freshly skinned bird, one you have done yourself, you will want to allow them to dry for about 7 days.

Do not be afraid to wash any skin. If you think that water might hurt it, how can you expect it to work on a dry fly that is going into the water?